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ABSTRACT

Community gardening projects can enhance community food security and improve the nutrition of project participants. However, limited information exists on the most effective models and methods for establishing community gardens in rural areas. A survey of 12 rural community gardening projects found a variety of program models: community gardens with individual plots, single community gardens for demonstration and education purposes with simultaneous provision of support to private individual gardens, community gardens tended collectively, gardens used to teach gardening skills, school gardens incorporated into the school curriculum, mentoring relationships between experienced and new gardeners, and community gardens affiliated with an existing entity to build sense of ownership. Pros and cons of each of these models are listed. Rural obstacles to community gardening include lack of volunteers, an insider-outsider dynamic between project developers and community members, lack of gardening experience, and transportation problems. Tips for successful gardens are listed, followed by program recommendations related to planning, program design and long-term development, funding, local food security, community relations, and public policy. A sidebar outlines characteristics of the projects surveyed: volunteer demographics, funding, types of educational programs, and operational issues. Contact information is included for projects cited in the report. (SV)

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Background

Millions of people remain food insecure in the United States despite the country's relative prosperity and strong economy. Estimates of the number of Americans experiencing hunger and food insecurity have remained relatively constant since 1995 at over 30 million individuals (USDA).

As the number of food stamp recipients continues to decline and more people look towards private charitable organizations for assistance, many local groups have begun to assess their overall level of community food security. One focused mechanism through which community food security can be enhanced is community gardening projects.

The importance of community gardens is highlighted by two unpublished studies, including one project evaluation from Maine that demonstrates the nutritional benefits of gardening for participants (Savoie). Of those families and individuals who participated in garden projects, 89% ate more fresh vegetables than usual, 96% planned to eat more fresh vegetables all year round, and 79% learned a new way to prepare fresh vegetables (Savoie). Gardeners also

reported that the project enabled them to get outside more and decrease expenditure on vegetables, and it taught them about gardening and nutrition.

A second study of fruit and vegetable consumption compared overall produce consumption among gardeners to national data (Ohri-Vachaspati). Researchers found that community gardeners consumed a greater number of



fruits and vegetables (7.5 servings per day in the fall, and 6.3 servings in the spring) compared to the national averages ("5-A-Day" baseline: 3.4 servings; Healthy People 2000 baseline: 4.3 servings) after participation in projects. Of the gardeners surveyed, 70-80% consumed at least five servings of fruit and vegetables daily. In addition, 74% of gardeners preserved produce from the garden (through freezing, canning, pickling, and drying) and 95% shared produce with neighbors, emergency food

service providers, and others (Ohri-Vachaspati).

Increased availability and subsequent consumption of fresh produce leads to improved nutritional status by enhancing vitamin, mineral, and fiber intakes. Those involved with community gardens are more likely to eat and continue in the off-season to eat more fruits and vegetables (Savoie) making them more likely to meet "5-A-Day" goals.

An estimated one million households are involved in community gardening in the United States (Ohri-Vachaspati). The challenge for individuals and

organizations involved with gardening is to establish effective projects to maximize limited community resources and the provision of fresh produce to individual households. Many successful community gardens have been created in *urban* areas based on the model of dividing a communal lot into individual plots.

Limited information exists, however, on the most effective models and methods for establishing community gardens in *rural* areas. Since gardening projects in rural areas aim to improve food security and nutrition, knowledge of the most effective practices will facilitate

achievement of these goals and ultimately improve public health primarily through the consumption of more fruits and vegetables.



Survey Goals and Objectives

From September to November 1999, the Center on Hunger and Poverty conducted a survey of rural community garden projects. The goal of the survey is to provide information that will enable individuals and organizations to establish effective community gardens in rural areas. Specifically, the objectives of this project are to:

- provide garden model alternatives for community gardening projects in rural areas;
- analyze the positive and negative factors associated with these models; and
- identify obstacles to gardening in rural areas as well as their possible solutions.

Survey findings can inform gardeners about various models and enable them to select the most effective approach(es) for their communities. The ultimate goal is to promote gardens that will have a positive impact on nutritional status, food security, and public health.

Survey Methodology

Questionnaire

Development of the questionnaire involved consultation with one garden project manager, and collaboration with colleagues at the Center on Hunger and Poverty. The survey was pilot tested, and questions were clarified and adjusted as needed.

Sample Selection

Garden managers were identified using existing Center contacts, as well as through independent research and networking. Contacts were obtained primarily from the following sources: (1) United States Department of Agriculture's list of Community Food Project grant recipients; (2) local urban community gardening groups' referrals; (3) University Extension Offices; and (4) the Community Food Security Coalition and American Gardening Association's listserves. The final sample is a non-random convenience sample, and results are therefore not representative of all gardening projects throughout the United States.

Survey Administration

Surveys were administered primarily over the telephone. Due to difficulties identifying rural community gardening projects, the survey was also posted on listserves (identified above) along with a description of the project. Projects were surveyed between September 22 and October 25, 1999. Distinction between urban and rural gardens was based on self-reports of locale. Respondents were asked to characterize their community by selecting between rural, suburban, or urban as the description which best describes their location. Since identification of area was self-reported, all respondents classified as rural may not fully fit the definition of rural locations provided by the U.S. Census Bureau of communities with less than 2,500 residents (U.S. Census Bureau).

Results

The final sample consisted of 17 respondents. Of these respondents, 12 were from rural community gardening projects, and 5 were involved with urban gardening projects. Only surveys from rural communities were incorporated into the results. Surveys from urban gardens were used to provide background about urban gardening for comparative purposes.

Respondents to this survey consisted of garden managers and other involved parties, like public relations staff.

Respondents worked on projects in AZ, CA, HI, KS, LA, ME, MO, MT, MS, OR, NY, VT, and WI. More than one project was surveyed in MO and MT.

Although the small sample size limits the generalizability of the results, the geographical distribution of the sample highlights models used in different physical, social, and economic environments.

Rural Garden Models

Community gardens with individuals plots

"Traditional" community gardening systems (community gardens with individual plots) are most common in urban areas, and often implemented in rural areas. Respondents in New York and Mississippi used this approach.

A number of additional models, however, are currently applied in rural regions throughout the

United States. An exploration of these models highlights the potential benefits and constraints faced by rural community gardening projects.

Single community gardens for demonstration and education purposes with simultaneous provision of support to individual, private gardens

One project in Arizona is moving away from the "traditional" notion of community gardens because of a low population density. Also, plenty of land is already available to individuals. This group found that transportation to a communal site has not made sense in the past. Instead, one community garden adjacent to a health center is tended by high school students and project staff, as well as used for demonstration purposes. In addition to this communal site, the project provides technical support for individual plots (on private property behind individual homes). This approach has been more effective than the prior establishment of a number of community gardens.

A Montana project also has a single community garden site and supports individual gardening efforts. The community garden is used for education and demonstration purposes, as local residents have little history of gardening. Gardeners are required to take at least one of three classes offered by project staff at the demonstration garden. After completion of the

class, gardeners receive free seeds and tilling, as well as technical assistance from the project. Groups in Louisiana and Maine also reported focusing mainly on individual gardens with the use of a limited number of community gardens for education or demonstrations.

Pros: use of private, individual gardens enables participation without the transportation time necessary for participation at a community garden; continues to provide educational component through maintenance of single community garden site; provides assistance to gardeners on private plots.

Cons: may reduce interaction among individual gardeners.

Community gardens tended collectively

A second project in Montana gardens communally. In other words, a large plot of land is collectively tended instead of divided into individual plots. Since the project donates all produce yields to a local emergency food service, distribution among garden volunteers was not an issue.

Pros: collective efforts enhance gardener interaction; neighbors might be able to share transportation costs.

Cons: if all yields are not distributed to charity, project may encounter produce distribution difficulties without a

clearly articulated distribution scheme.

Gardens used for training in gardening skills

In Hawaii, a plot is used to teach people how to grow their own food. Food grown that is not distributed to volunteers is sold to a local food bank at market rate. Money from the sale of this produce goes towards funding the garden as well as to support local growers. After purchasing the fresh produce, the local food bank sells it to local businesses, like restaurants and hotels, at a higher than market price. Profits from sales go directly to the food bank.

Pros: volunteers taught gardening skills; produce sales yield income for community members and organizations; engages many community groups and businesses.

Cons: low-income families and individuals less likely to directly benefit from fresh produce, as it is sold to local businesses.

School gardens with project built into school curriculum

A Wisconsin gardening project, Nutrition Through Gardening, consists of a nutritionist who teaches classrooms involved with a school garden about the USDA Food Guide Pyramid and nutrition. A school garden is established in both elementary and middle schools, and the program is built into the school curriculum. During the summer,

children attending summer school or programs tend the garden.

Pros: in-class lessons are reinforced and enhanced through experiential learning in the garden; children receive nutrition education; students provide a constant volunteer base; school can contribute to garden oversight and management.

Cons: requires teacher and administration willingness to incorporate lessons into curriculum; requires outside assistance from a nutritionist or the purchase of a curriculum accompanied by training for teachers.

One-on-one relationships between local, experienced gardeners and residents

Instead of creating a community garden system, one project in Vermont partners local, experienced gardeners with people in the community that are interested in gardening. The project provides seeds and technical assistance to individuals who want to garden at their homes. This has been determined as the best approach because members of this rural community are hesitant to get involved with "city-fied" gardens (the typical urban community garden model). The project seeks to utilize existing community capacity and resources. In addition, local residents do not want to pay for a plot of land, which is often the

case in urban environments, when land is readily available.

Pros: incorporates local knowledge and builds local capacity; utilizes existing private land resources; gardening assistance and skill building personalized; eliminates an "insider/outsider" dynamic.

Cons: time is required to build community trust and enlist volunteers; informal approach to gardening is difficult to justify to funders.

Community gardens affiliated with an existing entity (an apartment complex or church) to build a sense of garden ownership

One interesting approach used in Kansas (not from a rural area) is to establish gardens through affiliations with existing organizations or institutions. For example, community gardens were established at senior centers and a local girls shelter. Individuals associated with these groups tend the gardens. The idea behind this concept is to have groups build a sense of garden ownership, so that projects can be run independently in the future.

One component of a rural Wisconsin project established community gardens in trailer parks and low-income apartment complexes. Sites were chosen in five pockets of poverty based on Census data. Community garden sites are tended collectively by

residents. Tenants and other community residents can therefore easily participate in gardening projects.

Pros: projects can create a sense of ownership among participating organizations; potential for transfer of garden management to agencies, which increases the sustainability of projects; can tailor projects to meet the needs of specific populations; can provide a steady volunteer base; reduces transportation issues if participants already make trips to the organization.

Cons: even though community members without a direct connection to programs are encouraged to participate, establishment of gardens in conjunction with another entity may deter broad community participation.

Obstacles to Community Gardening in Rural Regions

- *Turnover in garden volunteers* – maintaining a steady volunteer base was frequently cited as a major challenge for rural community gardens. In low-income areas with high unemployment, it may be difficult to encourage community members to embrace volunteering (labor in exchange for no money). Compensation for volunteers

is an option for some; however, promotion of the benefits of receiving produce in exchange for labor should be highlighted.

- *An "outsider/insider" dynamic between those managing food security and development projects, and community members* – communities can be suspicious about outside organizations entering their area to do development projects if previous efforts have been unsuccessful. Skepticism can be overcome by the incorporation of local individuals and knowledge into projects.
- *Inexperienced gardeners* – since lack of experience leads to failed plantings and subsequent frustration, stress or require that all participants attend gardening skill-building classes.
- *Transportation* – this is especially problematic for children who cannot get to sites after school or in the day during the summer. Geographic distribution of community gardens can ease the distance between children's homes and therefore reduce transportation distance and time.



Rural Gardens at a Glance

Volunteer Demographics

- Garden volunteers include males and females, children, elderly, families, and individuals.
- The number of participants in each garden project surveyed ranged from 6 families to 250 individuals.
- 91% of respondents who knew the income status of participants work exclusively with low-income individuals and families.

Funding

- 8 of 12 projects (67%) have at least one paid garden manager or coordinator.
- Only 8% (1 of 12) of the gardens charged annual user fees.
- Three-quarters of surveyed projects receive at least some of their funding from grants.

Types of educational programs

- Food and gardening classes for high school students
- Disease management through nutrition classes. For example, one program works with diabetes patients and encourages consumption of specific foods as a way to manage diabetes.
- Workshops on canning, composting, saving seeds, irrigation, planning, planting, and harvesting
- Nutrition education

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Operational issues

- Only 17% of respondents (2 of 12) reported that their project had garden policies and guidelines in place. Of those without policies in existence, 40% (4 of 10) specifically stated that they were currently working on establishing guidelines.
- Three-quarters of rural community gardens surveyed have committees, groups or boards that oversee garden operations.
- One-quarter (3 of 12) of all garden projects surveyed require participants to grow organically. Most projects, however, strongly encourage organic gardening even though it is not an official requirement.
- Of those surveyed, 67% of the land used for community gardens was donated (8 of 12); 25% (3 of 12) use land privately owned by gardeners; and 8% (1 of 12) lease the land used for gardens.
- Only 25% of respondents replied that they paid for periodic or seasonal garden labor, like tilling. Three-quarters of the projects use volunteers to complete labor-intensive projects.
- Nearly 70% (8 of 12) of projects donate at least part of their produce yields to food banks, other emergency food services, the elderly, or to community members in need.
- Only 3 of 12 projects engage in selling produce.

Advice From Gardeners

Tips for successful gardens

- Do not assume that the "traditional" community garden model will be successful in rural areas.
- Consider the time costs associated with travel to a community garden site before adopting the "traditional" model. Also, if children are the focus of a project, make sure there are a lot of children in the area and they can get to the gardens without reliance on parental transportation.
- Include everyone in the effort, as everyone has something to contribute. Sometimes organizations or people are "just waiting to be asked." This includes local business participation. For example, banks can make low income people aware of resources for small business loans for gardens. Create as many links within the community as possible to build a base of support – network!
- Start out by being clear about the role of the organization (duties and obligations). Coordination of a project must be clearly communicated so that there are no unwarranted expectations.

- Identify community efforts that are already working well and determine why they are successful. Identify those who are succeeding in gardens and work with them and incorporate them into the project. Travel to other gardens and access as much information as possible to learn more about gardening in the region.

Recommendations

Issues to consider when establishing gardens

The findings of this project challenge the assumption that the traditional urban approach to community gardening will be effective in rural areas. Although implementation of the traditional model continues to exist in rural areas, some rural garden managers have discovered that this is not always the most effective or efficient approach. Only through an examination of the environment in which one works can the most appropriate model be identified.

The findings of this survey have a number of implications for community garden projects in rural areas. First, major funders of community food security and garden projects must recognize that the traditional model of urban gardening is not the only effective method of increasing a community's access to fresh food through gardening. The allocation and use of millions of

dollars in grant awards should take this into account.

Since there is little documentation of the effectiveness of various gardening models, convincing donors that alternative models of gardening can be successful requires candor. Establishment of gardens in communities takes more than one to three years, as it takes time to build trust within the community, lay groundwork for a project, and actually establish gardens. In the absence of immediate, measurable, quantitative results from projects, donors may not be willing to fund initiatives. Candid communication with donors will be an essential component for securing future funding for projects that use alternative gardening models. Funders should consider allocating grant money for program evaluation to facilitate documentation of successful efforts.

One important funding source is the USDA, which provides grants intended to help eligible private non-profit entities that need a one-time infusion of federal assistance to establish and carry out multi-purpose community food projects. Community food projects, which typically have a community gardening component, receive a one-time matching grant from \$10,000-\$250,000 over one to three years. An important funding source, the USDA will allocate \$2.5 million annually through the year 2002 for community food projects

(USDA, Community Food Projects).

Due to the constraints of community garden implementation in rural areas, such as lengthy transportation times to garden sites, organizations should consider using other methods to improve food security and nutrition in these areas to compliment garden initiatives. Organizations can promote use of federal safety nets. For example, outreach to families about federal nutrition initiatives like the Food Stamp Program, WIC, and School Breakfast, Lunch, and Summer Food Programs, may increase participation in these programs. Promotion of family economic security through enhancement of work income, promotion of Individual Development Accounts (IDAs), and making work more feasible for individuals by providing health care and child care subsidies, can all impact household food security and nutrition.

For those involved in community gardening projects in rural areas:

- Do not assume that the model of community gardens implemented in urban areas can be directly transferable to rural communities. Translating programs to other communities does not necessarily work.
- Identify obstacles to community gardening implementation and possible solutions. For example, how

will the project maintain a steady volunteer base in a community with a widely dispersed population?

- Identify, respect, and operationalize the values of the community into the design, implementation, and evaluation of the program, whether you agree with the values or not. Conduct focus groups to identify what residents think is most important for their community. Respect of the community is the willingness to respect the agenda of the community (Carballeira, 1999). Until major concerns of community residents are addressed, there may be little interest in community nutrition and garden projects.
- Incorporate different types of models into a project to see which is most effective if unsure about which might work best in a community.
- Focus on creating a sense of ownership of the gardens so projects become sustainable and not dependent on project funding.
- Examine the social and environmental factors that hinder participation.
- Incorporate as many local organizations and groups in gardening projects as possible. Local banks may be able to provide small business loans for micro-enterprise development

related to gardens, and the local fire department may be able to refill water storage tanks during water shortages.

For those involved with public policy:

- Funders need to be aware of the potential that rural garden models have and fund garden projects that may not be "traditional."
- Communities should not have to depend upon community gardens for fresh produce and a general food supply. Advocate for the promotion of federal nutrition programs like food stamps, WIC, and school feeding programs within the community in which one works.
- Ensure that local stores are accessible, reasonably priced, and have an adequate selection of fresh produce and other foods.

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